

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-36 are pending in the application, with claims 1, 13, and 25 being the independent claims. Claims 25 and 30-36 are sought to be amended. Applicant reserves the right to prosecute similar or broader claims, with respect to the amended claims, in the future. These changes are believed to introduce no new matter, and their entry is respectfully requested.

With respect to this Application, Applicant hereby rescinds any disclaimer of claim scope made in the parent application or any predecessor or related application. The Examiner is advised that any previous disclaimer of claim scope, if any, and the references that it was made to allegedly avoid, may need to be revisited. Nor should any previous disclaimer of claim scope, if any, in this Application be read back into any predecessor or related application.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 112

Claims 25-36

Claims 25-36 stand rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Without acquiescing to the merits of this allegation, Applicant amended claims 25 and 30-36 to accommodate the

Examiner's rejection. Accordingly, Applicant respectfully requests that the rejection of claims 25-36 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 101

Claims 25-36

Claims 25-36 stand rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter since it fails to be limited to embodiments which fall within a statutory category. Applicant respectfully traverses the rejection and provides the following arguments to support patentability.

The Office Action dated January 22, 2009 (herein "Office Action") alleges some embodiments of the "computer useable medium" as recited by claim 25 are directed to non-statutory subject matter. *See*, Office Action, p. 3. However, Applicant has previously amended the Specification of this Application in Amendment and Reply Under 37 C.F.R. § 1.111 filed on April 8, 2008 to remove the phrase "media that transmits a carrier wave or other signal" from embodiments of the "computer useable medium" in paragraph [0124] of the Specification as filed on October 10, 2003. *See*, Amendment and Reply Under 37 C.F.R. § 1.111 filed on April 8, 2008, pp. 3-4. As a result, the embodiments of the "computer useable medium" in paragraph [0124] are directed to statutory subject matter.

The Office Action further alleges "the claimed software means (computer program product) of claim 25 is... non-statutory subject matter since it is not a process, machine, manufacture nor composition of matter; nor [is it] recorded on some computer-readable medium." Office Action, Pages 3 and 4. In response, claims 25-36 are claimed

in a process where the processor is executing the computer program's instructions. In this situation, claims 25-36 should be treated as process claims. *See*, M.P.E.P § 2106.1. Hence, the claimed software means (computer program product) of claim 25 is directed to statutory subject matter.

In summary, claim 25 is directed to statutory subject matter. Dependent 26-36 are likewise directed to statutory subject matter for being dependent upon a base claim that is directed to statutory subject matter and further in view of their own respective features. Accordingly, Applicant respectfully requests that the rejection of claims 25-36 under 35 U.S.C. § 101 be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1-2 and 25-26

Claims 1-2 and 25-26 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over United States Patent Publication No. 2007/0058640 to Bunn et al. (herein "Bunn") in view of United States Patent Publication No. 2002/0136203 to Liva et al. (herein "Liva"). Applicant respectfully traverses the rejection and provides the following arguments to support patentability.

The United States Supreme Court, in KSR International vs. Teleflex, Inc., 550 U.S. 398 (2007), ruled on the requirements for obviousness analysis under 35 U.S.C. 103(a). The M.P.E.P. provides guidelines for supporting a prima facie obviousness rejection based on combining references. According to the M.P.E.P.,

[t]o reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

(1) ***a finding that the prior art included each element claimed, although not necessarily in a single prior art reference***, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference.

M.P.E.P. §2143.A (emphasis added).

As will be described in more detail below, Bunn does not teach or suggest at least the steps of "*establishing a logical channel for communication between a first device that supports at least one proprietary communication parameter associated with bandwidth utilization and other devices that support [the] at least one proprietary communication parameter*" and/or "*receiving registration information from a second device, wherein [the] registration information indicates that [the] second device supports [the] at least one proprietary communication parameter*" as recited by claim 1. Liva does not provide the missing teaching or suggestion with respect to claim 1 nor does the Office Action allege that Liva teaches or suggests these missing features of claim 1, therefore the combination of Bunn and Liva does not render claim 1 obvious.

The cable modem system of Bunn includes a cable modem termination system (CMTS) coupled to a cable modem via a hybrid fiber-coaxial (HFC) cable network. *See, Bunn, ¶¶ [0064] - [0071]* and Bunn, FIG. 1. The CMTS of Bunn

operates to receive and process data packets transmitted to it in accordance with the protocols set forth in the DOCSIS specification. However... the [CMTS] can also operate to receive and process data packets that are *formatted using proprietary protocols* that extend beyond those provided by the DOCSIS specification, such as data packets transmitted by the [cable modem].

Bunn, ¶ [0071] (emphasis added).

Thus, in contrast to claim 1 that recites "*a first device that supports at least one proprietary communication parameter associated with bandwidth utilization and other*

devices that support [the] at least one proprietary communication parameter," Bunn discloses a CMTS "to receive and process data packets that are formatted using proprietary protocols." Bunn, ¶ [0071].

In contrast to claim 1, the "proprietary protocols" of Bunn relate to formatting of the data packets themselves, whereas "*the one or more proprietary communication parameters associated with bandwidth utilization*" relate to parameters for transmission of the data packets. According to the Applicant's specification, the "*one or more proprietary communication parameters associated with bandwidth utilization*" as recited in claim 1 may "include a modulation rate, a base rate, or an alpha value." Specification, para. [0093]. Thus, the "*one or more proprietary communication parameters associated with spectrum utilization*" relate to parameters for transmission of the data packets from/to a CMTS to/from one or more cable modems to allow for more efficient bandwidth utilization. On the other hand, "the proprietary protocols" of Bunn "increases the bandwidth capacity of high-speed DOCSIS cable modem networks by employing field level encoding rather than simple byte substitution" through the formatting of the data packets. Bunn, ¶ [0022]. In other words, the "*one or more proprietary communication parameters associated with bandwidth utilization*" as recited in claim 1 more efficiently use the existing bandwidth of the communication system by optimizing the communication parameters that govern the transmission of data, whereas the "proprietary protocols" of Bunn increase the bandwidth capacity of the communication system through formatting of data packets. Therefore, Bunn does not teach or suggest at least the steps of "*establishing a logical channel for communication between a first device that supports at least one proprietary communication parameter associated with*

bandwidth utilization and other devices that support [the] at least one proprietary communication parameter" and/or "receiving registration information from a second device, wherein [the] registration information indicates that [the] second device supports [the] at least one proprietary communication parameter" as recited by claim 1.

Further, the Office Action provides that Bunn does not specifically "disclose creating a new proprietary logic channel." Office Action, p. 6. To cure this deficiency, the Office Action alleges Liva teaches or suggests this aforementioned feature such that when combined with Bunn renders claim 1 obvious. However, as to be discussed below, Liva does not teach or suggest these missing features of claim 1, therefore the combination of Bunn and Liva does not render claim 1 obvious.

Liva discloses an Enhanced Fiber Node (eFN) or mini Fiber Node (mFN) that includes a mini-CMTS. *See, Liva, ¶ [0063].* The "mini-CMTS is an enhanced CMTS that is characterized by high functional density, a compact form factor, low power consumption, and integral support for the merging of analog and digital channels for transmission over digital packet networks." Liva, ¶ [0063]. In a first embodiment of Liva, the mini-CMTS of "each eFN incorporates four downstream (DS) and sixteen upstream (US) channels." Liva, ¶ [0065]. According to Liva,

[t]hese four available selectable US channels are provided by a single physical digitized input. The two DS channels are fully DOCSIS compliant. Two of the available selectable US channels per input are fully DOCSIS compliant and the other two available selectable US channel per inputs support legacy (proprietary) channels.

Liva, para. [0065].

Likewise, in a second embodiment of Liva, the mini-CMTS of "each eFN incorporates four downstream (DS) and sixteen upstream (US) channels." Liva, ¶ [0066]. According to Liva,

[f]our available selectable US channels for each of four physical digitized inputs provide the sixteen US channels. The four DS channels are fully DOCSIS compliant. In a first variation, all four of the available selectable US channels per input are fully DOCSIS compliant. In a second variation, three of the available selectable US channels per input are fully DOCSIS compliant and the other available selectable US channel per input supports a legacy (proprietary) channel.

Liva, ¶ [0066].

In contrast to the *pre-existing selectable upstream and/or downstream channels* as disclosed by Liva, the method of claim 1 *creates "a new proprietary logical channel when a predetermined number of the other devices support [the] at least one proprietary communication parameter."* Claim 1 (emphasis added). For example, Applicant respectfully directs the Examiner to FIG. 15 of the Specification¹. As shown in FIG. 15, a CMTS of this Application determines if a cable modem has any proprietary features. See, Specification, ¶ [0057]. The CMTS of this Application "gathers a list of these proprietary features from the cable modem." Specification, ¶ [0058]. If the feature list of the cable modem does not allow the cable modem to be placed in an existing logical channel that support propriety features, i.e., a propriety logical channel, the CMTS of this Application evaluates all the currently registered modems that have proprietary features. The CMTS of this Application determines if a new logical channel, i.e., a previously non-existent logical channel, should be created for these modems based on

¹ The interpretation of the claims now being considered is not limited to the embodiment shown in FIG. 2 of this Application. Other embodiments are possible as will be apparent to one skilled in the relevant art(s) from the teachings of this Application.

whether the number of currently registered modems that have proprietary features has reached some predetermined number. Specification, ¶ [0059].

The mini-CMTS of Liva does not teach or suggest creating a new proprietary logical channel, rather the mini-CMTS of Liva selects between *pre-existing selectable upstream and/or downstream channels*. The first embodiment and the second embodiment of Liva merely describe an eFN having a *number of pre-existing selectable upstream and/or downstream channels*. Both the first and the second embodiment of Liva incorporate four downstream (DS) and sixteen upstream (US) channels. The four DS channels of the first embodiment and the second embodiment of Liva are DOCSIS complaint; however, the second embodiment of Liva may include one selectable channel from the four DS channels to support a legacy (proprietary) channel.

Hence, Liva does not teach or suggest at least the features of "*creating a new proprietary logical channel when a predetermined number of the other devices support [the] at least one proprietary communication parameter*" and/or "*assigning [the] second device to [the] new proprietary logical channel when [the] second device cannot be assigned to [the] one of [the] one or more proprietary logical channels*" as recited by claim 1. Bunn does not provide the missing teachings or suggestions with respect to claim 1 nor does the Office Action allege that Bunn provides the missing teachings or suggestions with respect to claim 1, therefore the combination of Bunn and Liva does not render claim 1 obvious. Dependent claim 2 are likewise not rendered obvious by the combination of Bunn and Liva for the same reasons as claim 1 from which it respectively depends and further in view of its own respective features. Accordingly, Applicant

respectfully requests that the rejection of claims 1-2 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

The combination of Bunn and Liva does not teach or suggest each and every feature of claim 25. For example, as discussed above in regards to claim 1, the combination of Bunn and Liva does not teach or suggest at least the features of "*creating a new proprietary logical channel when a predetermined number of the other devices support said at least one proprietary communication parameter,*" and/or "*assigning said second device to said new proprietary logical channel when said second device cannot be assigned to said one of said one or more proprietary logical channels*" as recited by claim 25. Dependent claim 26 is likewise not rendered obvious by the combination of Bunn and Liva for the same reasons as claim 25 from which it respectively depends and further in view of its own respective features. Accordingly, Applicant respectfully requests that the rejection of claims 25-26 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Claims 3-24 and 27-36

Claims 3-24 and 27-36 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Bunn in view of Liva and in further view of one or more of the following:

United States Patent No. 7,089,580 to Vogel et al. (herein "Vogel");

United States Publication Patent No. 2003/0053493 to Graham Mobley et al. (herein "Graham Mobley");

United States Publication Patent No. 2005/0025145 to Rakib et al. (herein "Rakib");

United States Publication Patent No. 2007/0076717 to Limb et al. (herein "Limb"); and

United States Publication Patent No. 2004/000863 to Cloonan et al. (herein "Cloonan").

Applicant respectfully traverses the rejection and provides the following arguments to support patentability.

The combination of Bunn, Liva, and Cloonan does not teach or suggest each and every feature of claim 13. For example, as discussed above in regards to claim 1, the combination of Bunn and Liva does not teach or suggest at least the features of "*to create a new proprietary logical channel when a predetermined number of the other devices support [the] at least one proprietary communication parameter*" and/or "*to assign [the] second device to the new proprietary logical channel when [the] second device cannot be assigned to one of [the] one or more proprietary logical channels*" as recited by claim 13. Cloonan does not provide the missing teachings or suggestions with respect to claim 13 nor does the Office Action allege that Cloonan provides the missing teachings or suggestions with respect to claim 13, therefore the combination of Bunn, Liva, and Cloonan does not render claim 13 obvious. Accordingly, Applicant respectfully requests that the rejection of claim 13 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

As discussed above, the combination of Bunn and Liva does not teach or suggest each and every feature of claims 1 and 25 nor does the combination of Bunn, Liva, and Cloonan teach or suggest each and every feature of claim 13. Vogel, Graham Mobley, Rakib, Limb, and Cloonan, alone or in any combination thereof, does not provide the missing teachings or suggestions with respect to claims 1, 13, and 25 nor does the Office

Action allege that Vogel, Graham Mobley, Rakib, Limb, and Cloonan, alone or in any combination thereof, provides the missing teachings or suggestions with respect to claims 1, 13, and 25 to render claims 1, 13, and 25 obvious. Dependent claims 3-12, 14-24, and 27-36 are likewise not rendered obvious by any combination of these references for the same reasons as claims 1, 13, and 25 from which they respectively depend and further in view of their own respective features. Accordingly, Applicant respectfully requests that the rejection of claims 3-12, 14-24, and 27-36 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

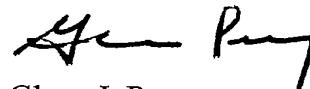
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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